CHAPTER 6

ENVIRONMENTAL CONSEQUENCES – ALTERNATIVE B

6.1 NATURAL RESOURCES

6.1.1 Geophysical Resources Impacts - Alternative B

Analysis of the impacts of Alternative B on geophysical resources at the Monument Grounds was prepared in the same manner as the evaluation of geophysical impacts of Alternative A.

Topography Impacts

The bollards, visitor services and screening facilities, and access corridor proposed in Alternative B would be built at the existing grade of the Grounds. Therefore, Alternative B would likely result in no substantial impacts to the topography of the Monument Grounds.

Soils Impacts

Surface soils in the vicinity of the proposed bollards, visitor facilities, and secured access path would be disturbed during construction. Additionally soil would need to be removed for the continuous underground footing to support each bollard. No substantive cut or fill of soils would be required for the proposed on-grade construction of Alternative B. To minimize the potential for temporary erosion impacts to soils during construction, erosion and sediment control measures would be implemented as described regarding surface water for Alternative B. Overall, implementation of Alternative B would result in minor impacts to existing fill soils previously introduced to the Monument Grounds.

Geology and Groundwater Impacts

In Alternative B, the Monument would continue to bear directly upon incompressible sand and gravel immediately below the foundation and thus indirectly upon a layer of compressible wet clay below the sand and gravel. As described for Alternative A, potential compression of this clay layer is of concern to the development of the Monument Grounds. Three factors that could potentially result in compression of the clay include the continuing slow settlement of the Monument, a modification of the loading on the clay layer, or substantial change in the water

table. As described in the following discussion, Alternative B would not be expected to affect these factors regarding clay compression.

The bearing weight of the Monument would be minimally increased by development of Alternative B. The weight of the planting bed and seat wall proposed around the base of the Monument would create a slight additional force upon the foundation of the Monument. The total additional weight of these features could be approximately 995 tons under conditions where the soils were completely saturated. This weight would be an approximate 1.2 percent addition to the existing 81,120-ton total bearing weight on the Monument foundation.

The soil load distribution surrounding the Monument would be negligibly affected by the development of Alternative B. The weight of the new visitor facilities and bollards proposed on the Grounds would be negligible in comparison to the total existing soil load on the Grounds surrounding the Monument and would be outside of the critical bearing area with regard to the Monument foundation. The permanent slight addition of differential loads due to Alternative B would not be expected to alter compression of underlying soils.

Finally, soil disturbance for the footings of the new visitor facilities would extend downward to approximately Elev. 15. This would be about 20.7 feet above the current elevation of the groundwater table at Elev. –5.7. Accordingly, no dewatering is proposed during the construction or operation of the Alternative B facilities. Therefore, the development of Alternative B would not affect the groundwater level below the Monument and would not result in additional compression of the clay substrate due to dewatering and drying.

Overall, Alternative B would result in minor impacts to the geologic resources at the Washington Monument Grounds.

Groundwater Impacts

As discussed regarding geology, development of Alternative B would not encroach upon the water table on the Grounds and would not require dewatering. Therefore, the constructed features of Alternative B would not be expected to affect groundwater at the Monument Grounds. Additionally, since the existing water table is well above the clay layer at the Grounds, changes in the groundwater level due to projects or factors outside of the scope of Alternative B would not be expected to dewater the clay layer. Under these conditions, construction and operation of Alternative B would be essentially unrelated to the water table at the Grounds.

Cumulative Geophysical Impacts

Cumulative impacts under development of Alternative B would be the same as those discussed regarding Alternative A.

Mitigation

The same mitigation measures recommended regarding geophysical resources for Alternative A are recommended for Alternative B.

6.1.2 Water Resources - Alternative B

Surface Water Impacts

The removal of vegetation and disturbance of soil during construction of Alternative B could temporarily increase the potential for amplified runoff and erosion on the Monument Grounds. However, as stated for Alternative A, the implementation of a DCRA-approved erosion and sediment control plan minimize these impacts in compliance with the "1987 Standards for Soil Erosion and Sediment Control."

The addition of the above-grade visitor screening facility, the introduction of the double-fenced security pathway, and the removal of the 16th Street parking lot would result in a no net change in the amount of impervious surface on the Monument Grounds. Therefore, Alternative B would not affect the permanent level of surface water runoff from the Grounds.

Alternative B would continue permanent stormwater control essentially as it is currently implemented on the Monument Grounds. As in Alternative A, existing combined storm and sanitary sewer lines on the Grounds would be separated. North of the Monument, separate storm and sanitary sewer lines would be installed to carry stormwater and wastewater to the combined sewer at Constitution Avenue. South and east of the Monument, separate storm and sanitary sewer lines would be installed to carry stormwater and wastewater to the combined sewer at 15th Street.

Wetlands Impacts

As stated for Alternative A, development of Alternative B at the Monument Grounds would not disturb land-containing wetlands.

Floodplains Impacts

The proposed disturbance of landscaped areas within the 100-year floodplain, for the installation of bollards at the Grounds perimeter, would be minimal and would not affect land contributing to the productivity of a floodplain ecosystem. Alternative B would have a major impact on the U.S.

Army Corps of Engineer's plan for flood control. Alternative B would include a physical barrier along 17th Street that would be an obstacle to easy access to the earth stored on the Grounds for construction of an emergency levee.

Cumulative Water Resources Impacts

Development of Alternative B would not result in adverse effects to the existing condition of surface waters, wetlands, or floodplains in the vicinity of the Monument. Therefore, the project would not contribute to cumulative impacts to these resources.

Mitigation

The same mitigation measures recommended regarding water resources for Alternative A are recommended for Alternative B. Additional mitigation recommended for Alternative B includes the following measures.

- When practicable, storm and sanitary sewer lines on the Monument Grounds will be separated into two distinct closed systems to allow for eventual connection into separate storm and sanitary sewer lines provided by the District of Columbia.

6.1.3 Vegetation Impacts – Alternative B

Development of Alternative B would involve moderate disturbance of grassland and trees around the Monument for construction of the new visitor facilities, modification of paths, and the introduction of the new double-fenced security pathway. Construction for Alternative B would also include excavation along the 1¼ mile perimeter of the Grounds for installation of a continuous footer to support the 1,600 security bollards. These operations would temporarily disturb approximately 1 acre of total grassland and approximately 2 acres of total land within the drip line of the woodland landscape at the Grounds perimeter. This excavation within the drip line would have a major impact on the root system of the trees along Constitution and Independence Avenues where trees line both sides of the sidewalks along the perimeter of the Grounds.

No habitat of rare or threatened species would be disturbed by the development. As described for Alternative A, to the extent possible, vulnerable elm and cherry trees on the Grounds would be protected during development, as would the mulberry tree to the southwest of the Monument. Alternative B would include revegetation of disturbed grassland on the Grounds with sod. Trees would also be planted, as needed, to achieve no net loss of planted woodland due to the project.

Cumulative Impacts

The cumulative status of vegetation at the National Mall may continue to decline in the future due to the spread of Dutch elm disease. However, as explained in the preceding discussion, construction of Alternative B would involve some damage to elms on the Grounds. Damage to the root system of the elms as a result of the construction of the bollard footer would leave them more susceptible to Dutch elm disease.

Mitigation

In addition to the same mitigation measures recommended regarding vegetation for Alternative A, special measures for the elm trees affected by foundation work in Alternative B will be undertaken.

6.1.4 Wildlife and Aquatic Life Impacts – Alternative B

Alternative B would not disturb rare or threatened animal species or critical faunal habitat. The common wildlife species inhabiting the Washington Monument Grounds could be disturbed or displaced by development of Alternative B. However, these animals should be readily able to utilize ample similar habitat located in proximity to the Monument Grounds.

Cumulative Impacts

The common species that utilize the Washington Monument Grounds and similar habitat at or near the National Mall would not experience a substantial net loss of habitat due to implementation of the Alternative B.

Mitigation

The same mitigation measures recommended regarding wildlife and aquatic life for Alternative A are recommended for Alternative B.

6.1.5 Hazardous Materials Impacts – Alternative B

Disturbed Soils

Under Alternative B, existing soils at the Grounds would be disturbed by grading, landscaping, and cut and fill activities associated with the proposed landscape improvements, construction of the visitor screening, improvements to pathways, the construction of the double-fenced security pathway, and the installation of perimeter security bollards with a continual underground footer. Given the previous use of fill materials on the Grounds, soil borings were made to the depth of disturbance in areas affected by the proposed site improvements.

During the proposed development of Alternative B, contaminated soils identified within proposed areas of soil cut would be carefully removed, transported, and deeply buried in locations of proposed fill, in accordance with applicable Federal and District of Columbia regulations for handling contaminated materials. Substantial amounts of clean fill soil would be

added over contaminated soils to the extent that the potential for exposure to contaminated material in the finished landscape would be eliminated. Excavated soil requiring removal to an offsite remediation and disposal facility would be coordinated with the D.C. Department of Consumer Affairs (DCRA), the DCRA Environmental Regulation Administration, and the Public Space Maintenance Administration (PSMA). Contaminated soil would be properly treated and disposed of in an approved facility in compliance with Federal and District guidelines. Overall, development of Alternative B would provide the opportunity improve potential adverse soil characteristics at the Grounds created by historic filling operations.

Demolition and Construction

Alternative B proposes to modify the existing structures at the Sylvan Theatre, which has the potential to expose past building materials that may contain materials such as lead-based paint, asbestos, and other materials that are now identified as hazardous. Potential impacts would include construction worker safety, public exposure, and disposal of hazardous material waste.

Mitigation

Impacts would be reduced to a level below significance by the implementation of appropriate mitigation measures, such as the use of best management practices for identification, collection, transport, treatment, and disposal of hazardous waste encountered.

6.1.5 Air Quality Impacts – Alternative B

The impact of Alternative B on ambient air quality would be primarily associated with construction activities on the Monument Grounds. Alternative B proposes less construction activity than Alternative A; therefore, air emissions would be less. No additional visitors to the Monument are anticipated due to this project; therefore, there would be no additional motor vehicle emissions, except for construction vehicles, construction equipment, and construction workers' personal vehicles, which would be present only for the duration of the construction process. Secondary impacts of pollutants on the Grounds would be the operation of the project's space heating/cooling equipment and facilities maintenance activities.

Construction Impacts

Construction may affect air quality as a result of (1) construction equipment emissions, including trucking to and from the Monument Grounds; (2) fugitive dust from demolition, grading, and earthmoving; and (3) emissions from vehicles driven to and from the site by construction workers. Emissions produced during construction would vary daily depending on the type of activity.

The specific types of equipment that would be used for demolition, grading, utility, paving, and building construction phases are not known, nor has the construction schedule been defined. Emissions can be estimated using techniques compiled and published by different air quality management districts, and based on the type of land use and the area of facilities to be built. The standard emission factors are based on the U.S. Environmental Protection Agency, Compilation of Air Pollution Emission Factors (commonly referred to as AP-42). The estimated emissions for Alternative B are estimated to be less than Alternative A; therefore, the emissions are estimated to be less than the de minimis thresholds and less than 10 percent of the projected area emissions. Therefore, it may be presumed that the construction emissions resulting from implementing Alternative B conform with the Metropolitan Washington attainment plan and there would be no significant regional air quality impact.

Mitigation

Mitigation measures identified for Alternative A, are applicable for Alternative B.

6.1.6 Noise Level Impacts – Alternative B

The effects of Alternative B on ambient noise levels would be primarily associated with construction activities on the Monument Grounds and the operation of construction vehicle access to and on the Grounds. Construction activities for Alternative B would result in intermittent short-term noise effects for the duration of noise-generating construction activities. The noise produced during construction would vary daily depending on the type of construction activity. The basic construction activities may include demolition, excavation and grading, utility construction, and building construction. Demolition for Alternative B would include the removal of paved areas in the Monument Plaza and specific Grounds pathways and modifications to the structures in the Sylvan Theatre area. Noise would be generated during excavation and grading, and utility and building construction of new visitor security screening facilities. Noise would be generated by construction equipment during all phases of construction, including the movement of heavy trucks to and from the site, and construction worker commute vehicles.

Construction would be required to comply with District noise control regulations: between 7 AM and 7 PM, noise generated by construction equipment (not including pile drivers) shall not exceed 80 dB(A) at a distance of 25 feet outside the construction site and between 7 PM and 7 AM, noise generated by construction equipment shall not exceed 55 dB(A) at a distance of 25 feet outside the construction site. The specific types of equipment that would be used for demolition, grading, utility, paving, and building construction phases are not known at this time. Construction activities would normally involve the use of bulldozers and jack hammers during demolition; bulldozers, scrapers, backhoes, and trucks during excavation and grading; backhoes during utility construction; and pile drivers, concrete mixers and pumps, saws, hammers, cranes, and forklifts during building construction. Table 5.1.7 -1 presents typical noise levels for various types of construction equipment. There are no sensitive noise receptors on the Grounds, as defined in Section 4.1.7. Unless construction would include pile driving near the property line, it is not anticipated that construction noise limits would be exceeded at the property line. Therefore, no adverse impact from construction activities on the site is anticipated for Alternative B.

Noise generated by new heating, ventilating and air conditioning (HVAC) equipment, vehicles, and facilities maintenance equipment such as lawnmowers is not anticipated to change from the existing noise levels from these sources. Therefore, there would be no adverse noise impact.

Mitigation

Best management practices and construction procedures will be implemented during construction of Alternative B to minimize construction noise at the sources as necessary to meet District standards. Noise barriers will be used as necessary to attenuate noise from the construction site. It is recommended that construction specifications require the selection of truck routes that will minimize the potential for truck noise impact during construction.

6.2 CULTURAL RESOURCES

6.2.1 Archaeological Resources Impacts – Alternative B

Alternative B would have no effect on archaeological sites that may be potentially eligible for nomination to the National Register. None of the proposed alterations would be below the stratum of fill that sits on top of the historic circa 1878 grade. Consequently, potential archaeological sites would be located below the project area or outside of the project area bounds.

During implementation, debris relating to previous construction and/or modifications could potentially be encountered. Should resources be encountered during construction, however, activities will stop while appropriate studies are conducted.

6.2.2 Historical Resources Impacts – Alternative B

The programmatic agreement, which spells out the consultation process as required by Section 106 of the National Historic Preservation Act and Advisory Council regulations (36 CFR Part 800) for Alternative A (See Appendix), would be amended to consider the proposed security improvements under Alternative B.

Alternative B would involve the removal of the interim screening structure that currently exists at the base of the Monument. This would be a positive impact for historic resources. Alternative B would also replace the existing asphalt around the base of the Monument with an interior ring of grass and an outer ring of granite. The double-fenced security pathway would bisect the plaza and would introduce a new element that is not compatible with historic plans for the Monument.

Alternative B's addition of a continual line of bollards would generate a major negative impact on the landscape of the Grounds. Since bollards are typically located in relation to urban walkways and streets, they would be appropriate along the sidewalk but would offer an unsympathetic contrast to the naturalistic landscape of the Grounds and would appear as a solid wall when viewed obliquely.

Alternative B would also affect the Sylvan Theatre by placing two new buildings for visitor screening, education and interpretive areas, a bookstore and restrooms as part of the existing complex. The Sylvan Theatre is an important element in the overall landscape and any new construction must be compatible with the design of the existing buildings. The new facilities and double-fenced security pathway would have a moderately negative impact on the Sylvan Theatre complex and cultural landscape.

Alternative B would create a positive impact on the Monument Lodge by restoring it to its original historic appearance. Alternative B would also create a positive impact by retaining and enhancing some of the landscape elements and features, which are contributing resources to the landscape of this historic resource. For example, the flagpoles around the base of the Monument would be retained.

Mitigation

- The overall design concept will be subject to design review by public agencies prior to implementation.
- The visitor screening and service facility at the Sylvan Theatre complex will be built into the side of the hill to minimize its visibility within the landscape.
- Ground surfaces and planting materials will be of the highest quality and appropriate to historic precedents.

6.2.3 Cultural and Ethnographic Resources Impacts – Alternative B

The November 2001 *Program Requirements for the Washington Monument Permanent Security Improvements* cite "Preservation of Cultural Landscape Quality" as a primary objective in the design. Therefore, consideration of this factor is important in evaluating both build alternatives and the No Action Alternative.

Alternative B's proposal to build an above-grade visitor screening facility at the Sylvan Theatre complex and create an above-grade, double-fenced security pathway would have a major negative impact on the cultural landscape quality of the Monument Grounds. The security pathway would block pedestrian movement across the Grounds between the Sylvan Theatre and the Monument, as well as on the plaza. In addition, an intrusive new facility would be introduced into the landscape. Although the proposal retains the Sylvan Theatre's use for cultural events, it adds another feature and another use to the immediate area. This use could conflict with cultural events and public gatherings that occur during the operating hours of the Monument.

Alternative B's reconfiguration of the walkways would make cultural gatherings and events open and accessible to more people approaching the Grounds from the north or west. However, although Alternative B would remove the temporary structure on the Monument's eastern side, it would bisect the plaza and restrict unimpeded circulation around the Monument. Overall, a double-fenced security pathway would be a major impact on the cultural landscape.

6.2.4 Visual Resources Impacts – Alternative B

Visual Impact on the Grounds

Under Alternative B, new buildings would be clustered near the Sylvan Theatre in an adjacent location. In addition, the existing 16th Street parking lot would be removed and pathways would be altered to allow for ease of pedestrian flow. However, a double-fenced security pathway would be highly visible from most points on the east and south sides of the Grounds. As a result, the Grounds would have a more graceful appearance to the north and west, but a degraded appearance to the east and south. The addition of 32-inch-high safety bollards along the perimeter of the Grounds could interrupt the intended gentle landscape. The addition of these two new above-ground linear features together would have a major adverse impact. Furthermore, as groups of visitors walk across the Grounds through the secured pathway, they would create a regular pattern of movement noticeable to the eye, altering the current aesthetic condition of the site. Overall, Alternative B would restore only some of the visual integrity of the Grounds.

Visual Impact on the Plaza

The plaza surrounding the base of the Washington Monument would be reconfigured under Alternative B. There would be a centered grassy area (to surround the Monument at its base) edged with granite and a low granite wall to direct pedestrian flow around an outer path, which would be composed of exposed aggregate concrete. The above-grade, double-fenced security pathway would bisect the plaza and terminate at, but not attach to, the Monument. Away from the Monument, the grassy portion of the plaza would present a pleasant contrast to the simplicity of the obelisk.

Visual Impact on Views and Vistas

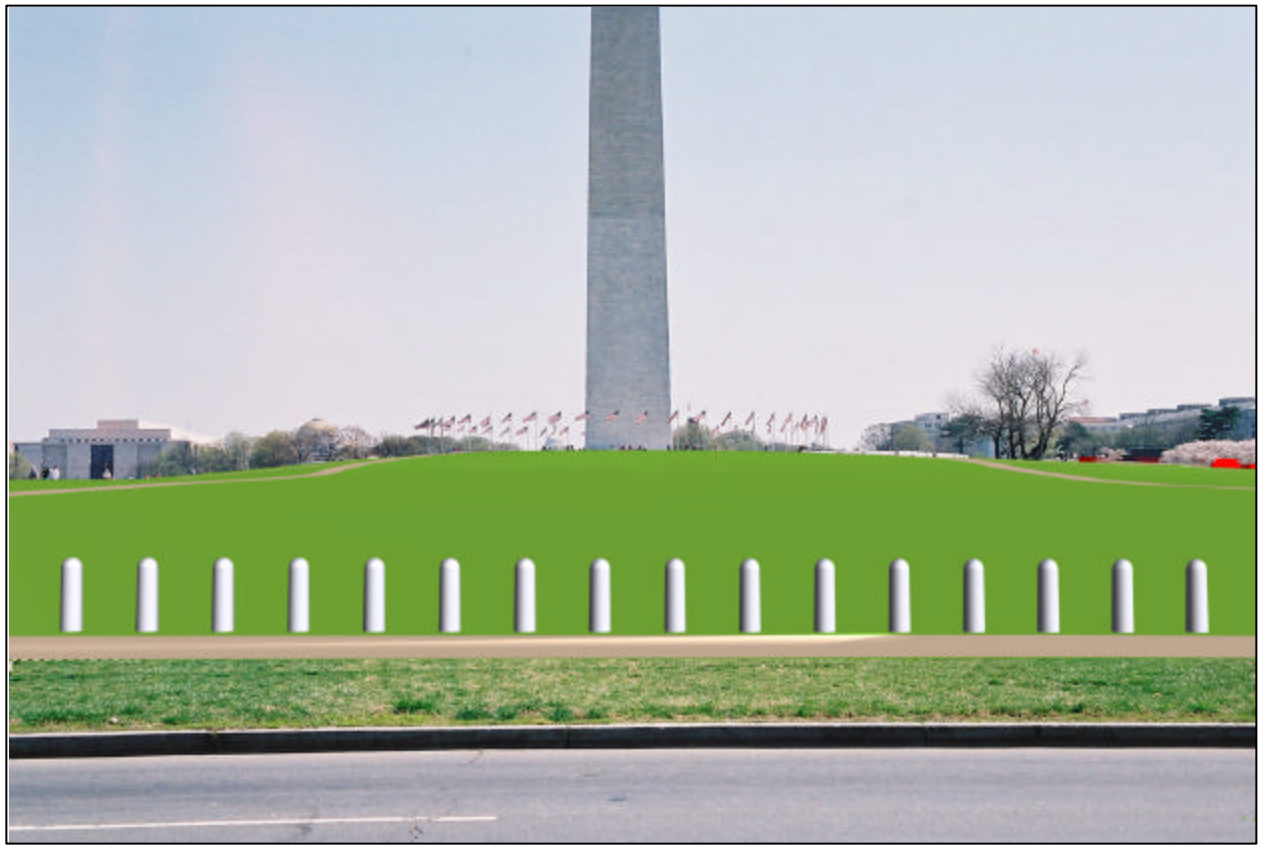
Overall, views and vistas would not be protected under Alternative B, although replacing the existing concrete jersey barriers with the proposed ring of bollards would give the Grounds a neater appearance. Clustering new buildings within an area of substantial trees would minimize

impacts on views to and from the Monument along the north-south axis. In addition, by removing the 16th Street parking lot, views would no longer be obstructed by cars.

However, the installation of security bollards along the entire perimeter of the Grounds, and the introduction of an above-grade, double-fenced security pathway, would substantially alter views from the east. The new structures would detract from the central east-west axis and result in a major negative visual impact.

Simulation #1 – View from 14th Street and Independence Avenue looking northwest toward the Washington Monument Grounds. The simulation illustrates the security bollards placed along the perimeter of the Grounds as a vehicle barrier system, and the introduction of a double-fenced security pathway connecting to the Monument. In addition, the concrete jersey barriers have been removed.

Simulation #2 – View from 17th Street and Independence Avenue looking northeast towards the Washington Monument. The simulation illustrates the open character of the Grounds to the west.

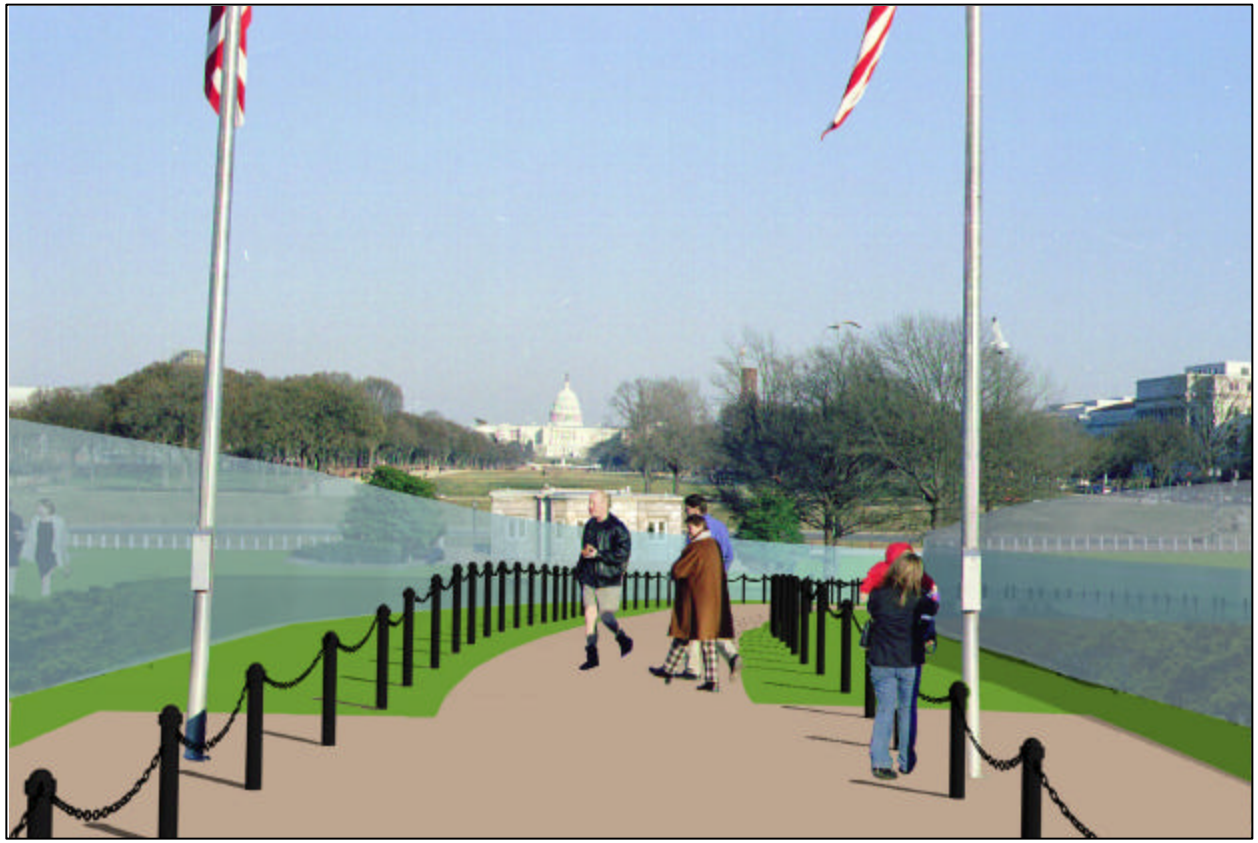


Simulation #3 – View from West Potomac Park and 17th Street looking east towards the Washington Monument. The simulation illustrates the bollard vehicle barrier system located along the perimeter of the Grounds, and includes the removal of the concrete jersey barriers.

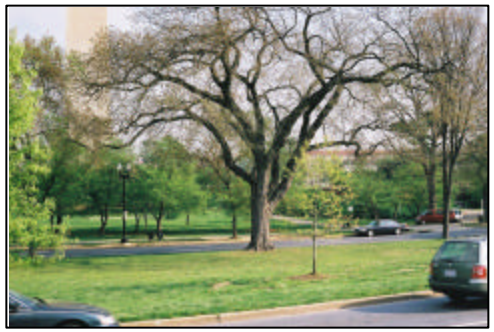
Simulation #4 – View from Constitution Avenue near the 16th Street parking lot looking southeast towards the Washington Monument. The simulation illustrates the removal of the parking lot and completion of the German-American Friendship Garden.

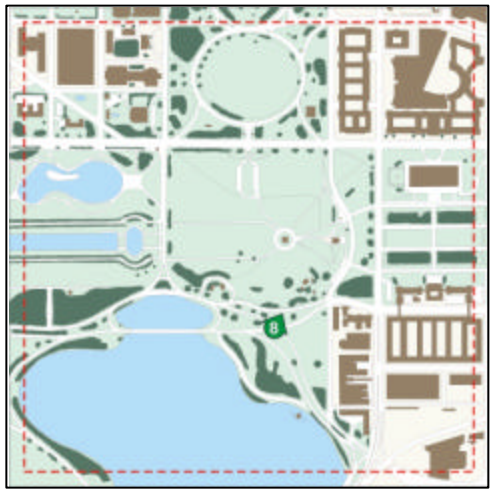
Simulation #5 – View from Milepost 0 Marker on north side of the Ellipse looking south towards the Washington Monument and the Jefferson Memorial. The simulation illustrates the continued open character of the Grounds and the preservation of the north-south vista to the Jefferson Memorial.

Simulation #6 – View from corner of 15th Street and Constitution Avenue looking southwest towards the Washington Monument. The simulation illustrates the security bollard vehicle barrier system located along the perimeter of the Grounds.



Simulation #7 – View from the Washington Monument looking east towards the U.S. Capitol Building and the National Mall. The simulation illustrates the double-fenced security pathway, the removal of the concrete jersey barriers, and the relocation of the flood light bays from the foreground of the view. Trees that would be added under the landscaping plan are not included.





Simulation #8 – View of the southern corner of the Monument Grounds. The simulation illustrates the security bollards along the perimeter sidewalk and the new screening facilities next to the Sylvan Theatre.

6.3 VISITOR USE AND EXPERIENCE

The methodologies and assumptions utilized to evaluate Alternative B are the same as those for Alternative A. Please refer to Section 5.3.1 for a discussion of these methodologies.

6.3.1 Visitation Patterns Impacts – Alternative B

Current visitation levels would continue under Alternative B. Similar to Alternative A, the physical capacity restrictions of the Washington Monument interior would continue to limit the number of visitors who would experience the Monument tour.

New visitor facilities located adjacent to the Sylvan Theatre would provide a number of new and potentially beneficial features for visitors; however, they would not contribute to increased visitation beyond current levels. The facility would provide enhanced interpretive opportunities that currently do not exist at the Monument, as well as improved concession services. These improved elements would provide educational opportunities to visitors who arrived at the Monument but were unable to obtain a tour ticket. However, the location of the visitor facilities would be removed from the greatest concentration of visitor access points and circulation patterns.

6.3.2 Visitor Experience Impacts – Alternative B

Visitor Access and Orientation

The new visitor services and screening facilities would alter how visitors arrive at and access the Washington Monument. Visitor services would be shifted from the base of the Monument and the primary pedestrian movement patterns (access predominately from the east and north) to the area adjacent to the Sylvan Theatre. The relocation of these visitor services such as ticketing would result in moderate adverse impacts as visitors are forced to adapt to the new facility locations. However, increased contacts with NPS personnel and with signs and maps could direct visitors to this less used and less visible area of the Monument Grounds, mitigating some of the potential visitor confusion.

Alternative B Site Access Diagram

To meet accessibility standards for disabled visitors, the access route from the low-lying visitor and screening facilities would follow an indirect route uphill to the Monument. The access route would consist of a double-fenced security pathway. The security pathway would also create a barrier to pedestrian movement on the Grounds because pedestrians would be prohibited from crossing the pathway. Away from the double-fenced security pathway, visitors would continue to have access to the grassy areas of the Monument Grounds if they desire to wander off the walkways. The low granite wall surrounding the newly created grassy portion of the plaza would allow visitors to rest and relax while viewing the exterior of the Monument or the adjacent landscape.

Because tours would be organized and conducted from the screening facility southeast of the Monument, fewer official vehicles such as sanitation trucks and park police vehicles would be on the Monument Grounds. The removal of these vehicles and the replacement of jersey barriers with bollards would provide a minor positive impact to the visitor experience. However, the construction of several new facilities in the southeast corner of the site and the associated visitor congestion could negatively impact visitors as they negotiate their way around these facilities to the Monument. Overall, changes to the walkways and Monument plaza under Alternative B would result in adverse impacts to visitor access and orientation to the Washington Monument.

Washington Monument Tour

The new above-ground facility at the Sylvan Theatre would consist of two buildings that would house ticketing and screening facilities as well as visitor amenities, including a new educational and interpretive facility. These new facilities would not change the essential components of ascending the Washington Monument, but they would alter the tour process prior to entering the Monument.

Similar to the other alternatives, the process of acquiring a ticket for ascending the Monument would remain the same. Visitors could continue to obtain their tickets in advance via reservation or acquire their ticket on a first-come, first-served basis the morning of their desired tour date. On-site ticketing would be available in the one of the new buildings clustered behind the Sylvan Theatre. The building would not as visible as the existing kiosk; however, it would provide protection from inclement weather. Overall, impacts to visitors during the ticketing process would be negligible.

While waiting for their tour, visitors would have a variety of activities to enjoy. The visitor services building and the interpretive facility would provide shopping and educational opportunities. The exhibits would provide educational information to those visitors unable to obtain a tour ticket. These activities would be located in multiple buildings that would not be convenient or easily accessed during bad weather. However, the addition of educational and interpretive opportunities would have a minor positive impact on visitor experience.

Queuing and screening for tours would occur at a complex addition to the Sylvan Theatre. One of the new buildings behind the Sylvan Theatre would be dedicated to ticketing and one to visitor screening. Visitors would queue in the building and be screened, prior to being escorted to a tour waiting area outside the building. This area would be segregated and guarded from the general public. Tours would be led by NPS Rangers or other personnel in a double-fenced security pathway that curves northwest to the Monument. Visitors would enter the Monument at the ground level and continue with the tour in the Monument.

Under this tour scenario, the queuing and screening process would be somewhat removed from the Monument in an area that is protected by vegetation and by the cover of several buildings, thereby, resulting in some protection from the weather during queuing and screening. The approach to the Monument would be above ground and allow visitors to view the Monument in its current context, although a double-fenced security pathway could detract from this experience because visitors would be segregated from the surrounding environment via physical structures.

Once visitors entered the Washington Monument, the tour would continue as it currently does today. Upon completing the tour, visitors would exit on the eastern side of the Monument. From there, the double-fenced pathway would detract from the axial view of the U.S. Capitol. Any strollers that were left in a non-secured area of the visitor screening facility would have to be retrieved by returning to the visitor facility. This return trip would result in minor negative impacts to visitors because of the inconvenience.

6.3.3 Resource Interpretation Impacts – Alternative B

The features most often enjoyed by Washington Monument visitors would not be affected by a new screening facility. Visitors with tour tickets would be provided the same experience no matter where the screening facility is located.

A new educational and interpretive facility would allow visitors to learn more about George Washington, the Monument's history, and the Federal City. Educational and interpretive exhibits would also provide minor to moderate benefits to visitors unable to acquire a tour ticket, particularly if visitors are able to hear from NPS Rangers who can help visitors form intellectual and emotional connections with the Monument. However, the location of educational and interpretive exhibits and programs in a building separate from ticketing, tour queuing, and security would not benefit visitor experience to the same degree as a facility where all functions are located together and easily accessible. In addition, the location of visitor facilities in a less-used area of the Grounds would have a further adverse impact on the visitor experience.

Cumulative Impacts

Existing tours and interpretive opportunities would continue to be available at museums, memorials, and other NPS sites in the vicinity of the Washington Monument. These opportunities would continue to enhance the visitor experience.

The ticketing, screening, and visitor service facilities near the Sylvan Theatre would create conflicts with performances and other activities because of their proximity. Washington Monument tours, particularly during extended evening hours, would be staged behind the Sylvan stage and would be led along the path immediately to the east of the theatre potentially creating noise and visual impacts. These distractions would result in moderate impacts to the experience of theatre or concert attendees.

Overall, visitation to the Washington Monument would be adversely affected by the above-ground screening facility and double-fenced security pathway. The number of visitors on the Washington Monument tour would continue to be limited by the capacity of the elevator at the observation level and the intrinsic qualities of the tour would remain the same. Visitors would continue to have access to base of the Monument via accessible walkways. However, access

across the Grounds near the southeastern corner would be blocked by the double-fenced security pathway. Relocation of ticketing, security screening, and tour queuing to new facilities at the Sylvan Theatre would alter the visitor experience. A new educational and interpretive facility would be located separately from other functions, providing fewer benefits than a facility where all functions are located together. Visitors would access the Monument above ground, receiving some protection from the elements during queuing and screening but not while approaching and accessing the Monument. Overall Alternative B would result in a minor negative improvement to the visitor experience.

6.4 SOCIO-ECONOMIC ENVIRONMENT

6.4.1 Land Use Impacts – Alternative B

As the largest open space in the heart of the Nation's Capital, the Washington Monument Grounds are an important recreational and natural resource for the city. Therefore, it is important that the alternatives respect and enhance the existing land uses of the site. Under Alternative B, the proposed vehicle barrier system would consist of bollards located along the perimeter of the Grounds. While this would provide challenges for event setup and breakdown, as well as slightly disrupt pedestrian movement, the Monument Grounds would retain their general land use and context as an open space used for ceremonial, recreational, educational, and cultural functions. Activities on the Monument Grounds would continue to be conducted pursuant to NPS permitting procedures and requirements.

In addition, Alternative B would retain the Survey Lodge for administrative use; however, the alternative would build additional facilities at the Sylvan Theatre for visitor screening and services, which would introduce new activities to the less-used southeast portion of the Grounds. The double-fenced security pathway inhibits free movement across the southeast corner of the Grounds and prevents circumnavigation of the Monument itself at the plaza. When the interior of the Monument is closed, limited circulation on the plaza would occur. Alternative B would also remove the parking lot to the north of the Monument. This would create a positive impact by allowing the German-American Friendship Garden to be completed consistent with its original design intent and use. Overall, Alternative B would be moderately inconsistent with current use of the site and the study area.

Plans and Policies

Alternative B would be consistent with the *Comprehensive Plan for the National Capital, Federal Elements* (1977-1984, updated 1990). With respect to the *Preservation and Historic Features* element, in the Alternative B would comply with the following policy:

- The adaptive use of the Monument Lodge as a visitor services and maintenance facility would provide for the continued, appropriate use of the Historic Property.

Alternative B would not be consistent with the *Comprehensive Plan for the National Capital, Federal Elements* (1977-1984, updated 1990), particularly with respect to the following policies of the *Parks, Open Space and Natural Features* element:

- The introduction of above-ground structures, would not preserve the integrity of the Monumental Core as a setting to enhance public buildings and monuments.
- The presence of a double-fenced security pathway would create a barrier that blocks pedestrian circulation across the Grounds.
- The proposed bollards would intrude upon the naturalistic landscape and would not enhance the distinguishing qualities and character of the Historic Landscape.

Likewise, Alternative B would not affect NPS regulations about sales, concessions and permitting.

6.4.2 Recreation Impacts – Alternative B

The security bollards proposed under Alternative B would be placed along the perimeter of the Grounds. This would allow most recreational uses to continue on most of the Grounds. However, the perimeter bollards would slightly disrupt the movement of pedestrians and joggers. The proposed above-grade, double-fenced security pathway from the Sylvan Theatre to the Monument would also preclude free pedestrian and recreational movement across the southeastern section of the Grounds. In addition, the perimeter bollards would disrupt the staging of activities and events that require trucks for set up and breakdown (i.e., jumbo video screens, tents, temporary stages, etc.)

6.4.3 Socio-Economic Resources Impacts – Alternative B

Socio-economic resources, including population and economic conditions, are generally affected by a proposed action when there are residential or commercial/retail uses on or in the immediate vicinity of the site. Since there is no housing located within or adjacent to the study area, there would not be any measurable impacts to housing, community services, social conditions, or

population. Likewise, since there is no commercial/retail space within or adjacent to the study area there would be no measurable impacts to economic resources.

6.4.4 Infrastructure Impacts – Alternative B

The development of Alternative B would result in minor impacts to infrastructure at the Monument Grounds. More specifically, the project would result in moderate impacts to pedestrian infrastructure at the Grounds due to the double-fenced security pathway, and minimal impacts to parking, as discussed regarding the impacts of Alternative B on transportation. The stormwater infrastructure at the Grounds would not be substantially affected by Alternative B. Other utility infrastructure at the Grounds would not be substantially affected by development of Alternative B.

As discussed regarding the impacts of Alternative B on visitor use and experience, development of Alternative B would not result in increased visitation to the Monument. Therefore, demand upon the electric, gas, steam, water, and sanitary sewer lines at the Grounds would not increase due to Alternative B. Design and configuration of the utility lines at the Grounds in response to the orientation of new facilities in Alternative B would be the responsibility of the utility service providers.

6.4.5 Transportation Impacts – Alternative B

Walkways

Under Alternative B, walkway reconfigurations to provide increased accessibility would result in a positive impact to pedestrian access. However, the double-fenced security pathway from the new screening facility at the Sylvan Theatre complex to the Monument would interrupt pedestrian circulation across the Grounds and result in a moderate negative impact.

Parking

Alternative B would eliminate the parking lot located on the north side of the Grounds, accessed by Constitution Avenue. The lot provides 108 parking spaces; however, these spaces are not only dedicated to visitors of the Monument and its Grounds. This parking lot, as with other parking

areas on or near the Mall, are part of a parking plan that allows visitors to access several monuments from one of the parking areas without moving their vehicle. Accommodating access to the Monumental Core of the Nation's Capitol is part of an ongoing NPS transportation study, investigating alternatives for a vehicular transportation system.

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